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REMARKS

During the personal interview held on April 20, 2007 between Examiner Cajilig, SPE Mai, and my representative, the following includes the principal issues which were discussed.

Claims 6, 11, and 40 were objected to for a number of informalities. These would be corrected by this amendment.

Claim 11 was rejected as failing to have support in the disclosure for "A single wythe wall, consisting of". Reconsideration of this ground of rejection is requested as support for this language appears in Fig. 1 which shows a single wythe wall and in page 12, lines 2-3, of the specification. The Examiner's statement "There is absent of indication in the specification that additional components would materially change the characteristics of Applicant's invention". This statement is believed to be irrelevant to the issue of support in the disclosure which is clearly shown as noted above. Applicant is allowed to claim his invention in any way he wishes along as the scope of the language is clear and there is support in the disclosure which certainly is the case here.

Claim 41 was rejected as failing to have support in the disclosure for "said ... water-permeable body is in direct contact through mortar with said drainage weep hole channel in an underlying foundation wall". This language is proposed to be changed to "body is in direct contact with said drainage weep hole channel in said upper surface of said foundation wall" which is clearly illustrated in Figs. 1 and 9 which show that the water permeable body wall sits directly on the underlying foundation wall and the language in page 17, lines 3-4, of the specification.

Claims 13, 17 and 41 were rejected as being indefinite. The lack of antecedent basis pointed out in claim 13 would be corrected in this amendment. The confusing language in claim 17 would be canceled.

Regarding claim 41, see above discussion.

Claims 1-7, 9-17, 19-30 and 40-43 were rejected as being unpatentable over Sourlis publication number 2004/0182037 in view of US Patent of Sourlis number 5,230,189.

Sourlis '037 has a single course of blocks on a foundation wall with a block 30 of permeable material in each cavity of the bottom row of blocks. Blocks 30 are flat members joined at the bottom to channel sections of similar material transversely to the sides of the blocks and wall. It does not appear that the top of the foundation wall is provided with drainage channels. Also, as the Examiner notes, the block of permeable material does not completely fill the area of the cavity at the bottom.

Sourlis '189 has a double wall structure with permeable material between the two walls and was cited for "substantially filling a hollow recess area (16)" (page 5 of the Office Action). It is not clear to the undersigned that this is the case as the patentee does not appear to make an explicit statement to this effect (see bottom of col. 4). In this reference, the water is carried away using wicks 22 (the weep holes 18 do not appear to be in the foundation wall), both the wicks and the weep holes being located above the foundation wall as appears to be the case in Figs. 1, 2 and 3, so that neither reference has channels in the supporting foundation wall.

Also, both of these references describe the use of flashing in connection with the lower course and the top of the foundation wall.

In contrast, the amended claims recite that the lower course of blocks rests on the foundation without a flashing. Therefore the present invention teaches away form both Sourlis '189 and Sourlis '037, either singly or in combination, because they both describe a flashing in connection with the lower course of blocks and the foundation.

In connection therewith, as noted in the attached article of Norbert V. Krogstad entitled "Troubleshooting -onsite" in Masonry Construction magazine, December 2002, the author states:

"Placing mortar underneath the brick unit does not prevent it form sliding on the flashing. Mortar will not bond well to the flashing, and with most flashings, there is no bond between the flashing and the shelf angle or foundation."

In contrast to Sourlis '189 and/or Sourlis '037, the present invention does not require a flashing, and in fact teaches against the use of a flashing between a course of blocks and the foundation. See Applicant's specification, at page 20, lines 25-28 through page 21, line 1, which states as follows:

"The masonry wall does not require a double wythe base course with flashings, which means that a stronger wall is achieved, since when a flashing course is installed, it breaks the mortar bond between the blocks."

Further, it is important to note that an important additional distinguishing factor is the shape of the permeable member recited in the claims, with the debris collecting all around the upper portion of each member (i.e., see the fourth par. in claim 1) and neither reference appears to include such a feature.

In other words, the Examiner has combined references neither of which shows a foundation wall with drainage channels, neither has the particular shape of the permeable member being claimed, and neither of which disclose the use of flashing, to reject claims all of which call for all of these features.

It is proposed to amend independent claims 1, 11 and 21 to recite more specifically these distinguishing features. As these features have already been included in the claims by referring to "inner cells communicating through at least one drainage weep hole channel with the outside" in the independent claims and "the bottom course of masonry elements having inner cells communicating through at least one drainage weep hole channel", or similar language, the

proposed language merely clarifies the distinction and thus does not raise any new issues.

The Examiner appears to minimize the significance of not using flashing in the claimed construction. In fact, this is an important factor in the present invention as described in page 11, lines 8-9, and the first paragraph of page 18 of the specification.

In view of the foregoing, the proposed amendment should be entered and the application passed to issue.

The Examiner is requested to call the undersigned if further changes are required to obtain allowance of the application.

A favorable action is solicited.

Respectfully submitted,

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Troubleshooting - onsite

Norbert V. Krogstad

Terminating through-wall flashing

Q How should you terminate masonry through-wall flashing at door jambs and at first-floor windows that extends to the base of the masonry wall and that's recessed from the face of the wall?

I know that end dams are recommended; however, how can end dams be installed in these cases when the brick masonry is typically returned beyond the face of the window at the jambs? Should the end dam be placed in the first mortar joint in front of the window or door? In this case, what will happen to any leakage that may occur in the space between the end dam and the face of the window or door?

A In locations where the doors or windows are recessed, I typically recommend using a three-sided end dam. The three-sided upturned leg of the end dam should return out beyond the exterior face of the window or door. Water that reaches the flashing in this location cannot leak into the interior; it will be diverted to the exterior in front of the perimeter sealant joint for the window or door.

The three-sided end dam should extend far enough beyond the face of the window or door frame so that the perimeter sealant joint can be bonded to the exterior face of the flashing end dam. It is important that this flashing end dam be installed tightly to the face of the masonry so that there is not a significant gap that would be unsightly and make the installation of the perimeter sealant joint difficult.

Causes of diagonal cracks

Q I am making repairs to a building that was constructed in the early 1950s. The masonry walls have diagonal cracks extending up from the ends of the steel lintels over the windows. These cracks occur on both sides of the lintels and are worse at the top floor of the building.

Do you have any ideas as to what is causing these cracks?

A Diagonal cracks that extend up from the ends of the lintel are often caused by corrosion of the steel lintel. The corrosion product of steel will occupy 10 to 20 times as much space as the steel itself. This expansion generates tremendous pressure when confined and is capable of bending the steel angles, breaking apart the brick masonry, or lifting the brick.

Corrosion that builds up on the top surface of the steel lintel lifts the masonry. Diagonal cracks form at the ends of the lintel because this area is the weakest plane. The cracks are more likely to occur when there are only a few feet of masonry above the head of the windows because there is less weight to resist the expansion pressure generated by the corroding steel.

Where there is greater confining pressure, such as at lower levels on a building that does not contain horizontal expansion joints, the pressure generated by the corroding steel causes the portion of the angle above the window to deflect downward and the brick at the jambs to crush.

To repair this problem, it is often necessary to replace the lintel with a new one. Typically, three to four courses of the exterior brick masonry wythe will need to be removed in order to perform this repair.

Temporary support must be provided for the masonry immediately above the angle. This support is often obtained by using steel rods at close spacing that are drilled into the backup to serve as shear pins or by using a shore to support the masonry from a lower floor or the ground. You should work with a structural engineer to develop an effective method of shoring for your particular set of conditions.

I recommend replacing the lintels with new, galvanized steel lintels; however, painted mild steel lintels may be used. If a proper corrosion-resistant paint coating is applied, the finished appearance of the lintel can be used to match the window system. A portion of the lintel is often exposed above the window and will match the surrounding materials better if painted. Galvanized angles can also be painted; however, special surface preparation is required to develop proper paint adhesion.

After the lintel is replaced, flashing must be installed above it to protect the angle from water and to prevent water leakage problems in the wall system below. The flashing should extend beyond the ends of the lintel and should have upturned ends--called end dams--to prevent water that reaches this flashing from flowing off the ends and remaining within the wall.

Mortar or not?

Q Some experts recommend that brick units be placed dry on flashing--such as above shelf angles--rather than setting them in mortar.

If the brick are not set in mortar, what holds the units in place? Won't they slide out away from the wall?

A I usually recommend that brick units be laid on flashing without any mortar. The mortar on the surface of the flashing may interrupt the flow of water out of weep holes. When units are installed on flashing without mortar beneath them, there is no mortar to interrupt the flow of water out of the weep holes, and water can flow underneath the brick.

Placing mortar underneath the brick unit does not prevent it from sliding on the flashing. Mortar will not bond well to the flashing, and with most flashings, there is no bond between the flashing and the shelf angle or foundation.

Resistance to lateral loads is handled by the wall ties. The first tie is typically positioned four or five courses above the flashing. Although not typically relied on in the design of the wall, there is often sufficient friction to handle lateral wind loads as well.

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CERTIFICATE OF FAX TRANSMISSION

I certify that the aforementioned Amendment is being sent by fax transmission to 571-273-8300.

Dated: May 17, 2007

Alfred M. Walker